

Notice of Allowability

Application No.

10/665,944

Examiner

Brook Kebede

Applicant(s)

MAA ET AL.

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 19 September 2003.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 19 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-21 are allowed over prior art of record.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

The prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole either taken alone or in combination, in particular, prior art of record does not teach "patterning and etching the SiGe layer, whereby a patterned SiGe layer is formed; and transferring the patterned SiGe layer to an insulator layer," as recited in claim 1, "patterning and etching the strained SiGe layer, whereby a patterned, strained SiGe layer is formed; transferring the patterned, strained SiGe layer to an insulator layer," as recited in claim 12, and "patterning and etching epitaxial silicon layer and the SiGe layer, whereby a patterned SFSiGe stack is formed; transferring the patterned Si/SiGe stack to an insulator layer by bonding the epitaxial silicon layer to an insulating layer on a second substrate to form a bonded couplet," as recited in claim 21 respectively.

Re claims 1, 12, and 21, Canaperi et al. US/6,524,935 disclose forming of silicon/silicon germanium interface comprising forming strained SiGe on a substrate and implanting of the SiGe layer with hydrogen ion in order to form hydrogen rich defect line in the SiGe layer and separating the SiGe layer to another substrate containing insulator and bonding to form SiGe on insulator (SGOI). However, Canaperi et al. fail to disclose patterning and etching the SiGe layer, whereby a patterned SiGe layer is formed; and transferring the patterned SiGe layer to an insulator layer.

Chu et al. US/2003/0199126 also disclose SiGe-on-insulator substrate by using oxygen ion implant separation and bonding process. However, Chu et al. do not disclose patterning and etching the SiGe layer, whereby a patterned SiGe layer is formed; and transferring the patterned SiGe layer to an insulator layer.

Therefore, prior art of record does not anticipate or render obvious the instant application claimed invention either taken alone or in combination.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Henley et al. (US/2001/0007790), Chu et al. (US/2002/0096717), and Henley et al. (US/2003/0124815) also disclose similar inventive subject matter. However, the prior art fails to teach patterning and etching the SiGe layer, whereby a patterned SiGe layer is formed; and transferring the patterned SiGe layer to an insulator layer either taken alone or in combination.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Correspondence

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BK
April 28, 2004


George Fourson
Primary Examiner